Page 10, between lines 2 and 4, insert:

--Brief Description of the Drawings:--.

Page 10, between lines 18 and 20, insert:

--Description of the Preferred Embodiments:--.

Page 22, at the top, change the heading "Patent claims" to -- We Claim:--.

In the Claims:

Cancel claims 1 to 13.

Enter the Following New Claims:

14. A method for switching a plurality of packet-oriented signals, which comprises:

a) supplying a respective signal to at least one port of a plurality of port units, each of the port units having a predetermined number of ports;

b) connecting the signal from a port on a port unit to another port on another port unit through a central switching unit coupled to the port units, and carrying out signal transmission between the port units and the central switching unit in steps by transmitting data blocks;

c) ascertaining with each port unit an address information item for each data packet supplied to one of the at least one port of each port unit and using the address information item to determine that port unit to which the data packet will be transmitted, each port unit storing, in a buffer memory associated with the respective port unit, the data packet as a whole or segmented into a plurality of cells;

B3 Cont

d) compiling with each port unit, at predetermined intervals of time, availability information indicating to which of the other port units the at least one of cell and at least one data packet will be transmitted;

e) transmitting with the port units the availability information to the central switching unit;

f) the central switching unit evaluating the availability information and using a prescribed specification to ascertain authorization information indicating from which port units a respective data packet or cell can be transmitted to which other port unit in a next step or in a particular one of next steps without the occurrence of blocking;

g) transmitting the authorization information at least to the relevant transmitting port units with the central switching unit;

h) transmitting particular released data packets or cells with the transmitting port units to the central switching unit, and the central switching unit connecting the necessary paths between the transmitting port units and the receiving port units and transmitting the data packets or cells to the respective receiving port units through the connected paths; and

i) the receiving port units evaluating the address information in the received data packets or cells and assigning the data packets or cells to the relevant ports, and, if necessary, recombining the cells received in a plurality of steps into data packets and outputting the data packets through the relevant ports.

15. The method according to claim 14, which comprises transmitting availability and authorization information and the data packets or cells synchronously at predetermined intervals of time.

16. The method according to claim 14, which comprises providing the availability information in a header of a packet or cell being transmitted by the relevant port unit to the central switching unit.

17. The method according to claim 16, wherein the availability information is a number of bits corresponding to at least one of an actual and maximum possible number of port units at least to be connected to the central switching unit, the position of a bit within the number of bits indicating the port unit to which a packet or cell is available for transmission, and one binary state of the bits signifying the presence of a data packet or cell to be transmitted and the other binary state signifying the absence.

18. The method according to claim 14, which comprises providing the authorization information in a header of a packet or cell being transmitted from the central switching unit to the relevant port unit.

19. The method according to claim 18, wherein the authorization information is a number of bits containing a coded designation for that port unit to which transmission of a data packet or cell is enabled from that port unit to which the authorization information is transmitted.

20. The method according to claim 14, which comprises indicating with a header of a packet or cell a port unit and a port on the port unit to which the packet or cell will be transmitted.

21. A method for switching and routing a plurality of packet-oriented signals in local area networks based on the Ethernet standard, which comprises:

a) supplying a respective signal to at least one port of a plurality of port units, each of the port units having a predetermined number of ports;

b) connecting the signal from a port on a port unit to another port on another port unit through a central switching unit coupled to the port units, and carrying out signal transmission between the port units and the central switching unit in steps by transmitting data blocks;

c) ascertaining with each port unit an address information item for each data packet supplied to one of the at least one port of each port unit and using the address information item to determine that port unit to which the data packet will be transmitted, each port unit storing, in a buffer memory associated with the respective port unit, the data packet as a whole or segmented into a plurality of cells;

d) compiling with each port unit, at predetermined intervals of time, availability information indicating to which of the other port units the at least one cell and at least one data packet will be transmitted;

e) transmitting with the port units the availability information to the central switching unit;

f) the central switching unit evaluating the availability information and using a prescribed specification to ascertain authorization information indicating from which port units a respective data packet or cell can be transmitted to which other port unit in a next step or in a particular one of next steps without the occurrence of blocking;

g) transmitting the authorization information at least to the relevant transmitting port units with the central switching unit;

h) transmitting particular released data packets or cells with the transmitting port units to the central switching unit, and the central switching unit connecting the necessary paths between the transmitting port units and the receiving port units and transmitting the data packets or cells to the respective receiving port units through the connected paths; and

i) the receiving port units evaluating the address information in the received data packets or cells and assigning the data packets or cells to the relevant ports,

and, if necessary, recombining the cells received in a plurality of steps into data packets and outputting the data packets through the relevant ports.

22. An apparatus for carrying out the method according to claim 14, comprising:

a central switching unit; and

port units connected to said central switching unit, each of said port units having a predetermined number of ports and a buffer memory;

said port units and said central switching unit each having a control unit with:

means for supplying a respective signal to at least one port of said port units;

means for connecting the signal from a port on one of said port units to another port on another of said port units through said central switching unit;

means for transmitting signals between said port units and said central switching unit in steps by transmitting data blocks;

means for ascertaining with each port unit an address information item for each data packet supplied to one of said at least one port of each of said port units;

means for using the address information item to determine that port unit to which the data packet will be transmitted, each port unit storing, in said buffer memory, the data packet as a whole or segmented into a plurality of cells;

means for compiling with each port unit, at predetermined intervals of time, availability information indicating to which of other port units the at least one cell and at least one data packet will be transmitted;

means for transmitting the availability information to the central switching unit with the port units;

means for evaluating the availability information with the central switching unit and for using a prescribed specification to ascertain authorization information indicating from which of said port units a respective data packet or cell can be transmitted to which other of said port units in a next step or in a particular one of next steps without the occurrence of blocking;

means for transmitting with the central switching unit the authorization information at least to relevant transmitting port units;

means for transmitting particular released data packets or cells to said central switching unit with the transmitting port units;

means for connecting necessary paths between said transmitting port units and said other receiving port units with said central switching unit;

means for transmitting the data packets or cells to respective other receiving port units through connected paths;

means for evaluating address information in the received data packets or cells with said receiving port units; and

means for assigning the data packets or cells to relevant ports, and, if necessary, means for recombining the cells received in a plurality of steps into data packets and outputting the data packets through relevant ports.

23. An apparatus for switching a plurality of packet-oriented signals, comprising:

a central switching unit; and

port units connected to said central switching unit, said port units and said central switching unit each having a control unit to carry out the method according to claim 14.

24. The apparatus according to claim 22, wherein said central switching unit has a collision resolution unit for using a prescribed specification to create a fairest possible authorization information during a condition in which a plurality of said port units at the same time contain at least one data packet or cell available for transmission to the same other one of said port units.

25. The apparatus according to claim 24, wherein said collision resolution unit is integrated in said central switching unit.

26. The apparatus according to claim 22, wherein each of said control units in said port units has an interface unit for coupling said port units to said central switching unit and a protocol unit for carrying out control tasks internal to a respective one of said port units.

27. The apparatus according to claim 23, wherein each of said control units in said port units has an interface unit for coupling said port units to said central switching unit and a protocol unit for carrying out control tasks internal to a respective one of said port units.

28. The apparatus according to claim 26, wherein said protocol unit is configured to transmit to said interface unit a respective information item regarding whether one of a group consisting of no data packets or cells, a single data packet or cell, and at least two data packets or cells is available for transmission for others of said port units, so that, once an authorization information item has been received for a respective one of said port units, said interface unit can use the information to ascertain availability information for a next step or a particular one of the next steps without further communication with said protocol unit.

29. The apparatus according to claim 27, wherein said protocol unit is configured to transmit to said interface unit a respective information item regarding whether one of a group consisting of no data packets or cells, a single data packet or cell, and at least two data packets or cells are available for transmission for others of said port units, so that, once an authorization information item has been received for a

respective one of said port units, said interface unit can use the information to ascertain availability information for a next step or a particular one of the next steps without further communication with said protocol unit.

30. The apparatus according to claim 26, wherein said interface unit is configured to transmit next availability information, ascertained after receipt of the authorization information, to said central switching unit immediately with a next data packet or a next cell.

31. The apparatus according to claim 27, wherein said interface unit is configured to transmit next availability information, ascertained after receipt of the authorization information, to said central switching unit immediately with a next data packet or a next cell.--

In the Drawings:

Please replace the original Figs. 1, 2, and 4 with the attached new Figs. 1, 2, and 4. Specifically, reference numeral 7 has been changed to 8.

In the Abstract:

Please replace the Abstract of the Disclosure with the new Abstract of the Disclosure, attached hereto as a separate sheet.